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AUTHORS: ⑧ Dmitriyeva, N. N., Dmitriyev, V. A.

TITLE: ⑥ The distortion of an ionization burst spectrum effected by an amplifier

PERIODICAL: ⑤ TRANS. from Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 6, 1962, 77-10

TEXT: The distortion of pulses, i.e. the variation of the amplitude ratios, of a cylindrical ionization chamber was analyzed at various ionization distributions in the chamber. The case of an amplifier with broad pass-band ( $\tau_1 = 10T$ ,  $\tau_2 = 1/5T$ ) is investigated and some other cases, e.g. an amplifier with  $\tau_1 = \tau_2 = T$ , are discussed.  $T$  is the pulse duration,  $\tau_1$  and  $\tau_2$  are time constants of the most extreme differentiation and integration terms of the amplifier. The scattering and the magnitude of the output signals are compared for various values of  $\tau_1$ ,  $\tau_2$ ,  $T$ , and for various ionization distributions in the chamber. For  $\tau_1 = \tau_2 = T$ , the slope front

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The distortion of an ionization...

increases by  $\leq 10\%$  and the pulse-height resolution is found to be 3%. For  $\tau_1 = \tau_2 > T$ , a smaller scattering is, however, always accompanied by a considerable increase in the slope front (several 100%). A method of tuning band width noise, and magnitude of  $T$  for certain purposes (with consideration of microphony) is discussed. There are 2 figures and 1 table.

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